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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/829,248	04/09/2001	Patrick M. McCartney	89.0469	7390

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EXAMINER

TYLER, CHERYL JACKSON

ART UNIT PAPER NUMBER

3746

DATE MAILED: 05/29/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/829,248

Applicant(s)

MCCARTNEY, PATRICK M.

Examiner

Cheryl J. Tyler

Art Unit

3746

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 April 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11, 17-29 and 31-34 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11, 17-21, 23-29 and 32-34 is/are rejected.
- 7) ☒ Claim(s) 22 and 31 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

2. Claims 1 and 7-8 are rejected under 35 U.S.C. 102(b) as being anticipated by Carter (3,975,117). Carter teaches a large casing 11 (corresponding to the claimed motor housing); a shaft 33 disposed within the casing; anti-friction ball bearing assembly 34, 47 (corresponding to a plurality of wear surfaces) that support the shaft; an inducer impeller pump 37 (corresponding to the lubricant pump) disposed within the casing at axial end thereof; central bore 64 (corresponding to the claimed conduit); a stator 31 disposed within the casing; and a rotor 32 rotatably mounted within the stator and mounted on the shaft. Carter teaches that "the inducer impeller 37 suspended on the bottom of the motor shaft 33 is rotated so that its vanes 39 will induce an upward flow of the fluid through the annular passage 24 between the motor housing 17 and the surrounding casing 14. The vanes 18 in this passage 24 will diffuse rotation of the fluid created by the rotating vanes 39 to axial flow. The axially flowing fluid passes through

the inwardly converging passages 25 provided in the cap 16 to inlet 26 of the first pump stage where the fluid enters the eye of the shrouded impeller 53 ... Some of the fluid from the pumping chambers 27 will flow between the adjacent impellers and the overlying walls 83 of the cup members 82 into the chambers 86 which communicate with the bores 64 in the motor shaft 33 through the passages 6 and 87. This fluid is discharge from the motor shaft bore 64 through the passages 65 in to the bottom of the motor housing 17 and can flood this motor housing to eventually leak through the bottom bearing 34 and the bearing bushing 45 back to the inducer to merge with the incoming fluid impelled by the inducer and thus, be recirculated back through the passage 24. Likewise, the bled-off fluid in the top of the motor housing 17 can flow through the bearing 47 and bushing 62 back to the first stage pump inlet 26 to merge with the fluid from the passages 25. In this manner, the motor compartment is cooled and the bearings are lubricated" (column 5, line 44 - column 6, line 17).

3. Claims 1-5 are rejected under 35 U.S.C. 102(e) as being anticipated by Gilbert (6,422,346). Gilbert teaches motor means 16, which includes the claimed stator and rotor (as illustrated in patent number 6,132,177, which was incorporated by reference in the '346 patent) disposed within a housing (unnumbered, but clearly illustrated in Figure 1) that includes motor means 16; a crankshaft 12 (corresponding to the claimed rotatable shaft) at least partially disposed within the housing; a plurality of wear surfaces that support the crankshaft 12 (unnumbered, but disclosed in column 3, lines 14-15); an internal lubricant pump (unnumbered, but clearly illustrated in Figure 2) disposed within the housing and circumferentially about the crankshaft; oil passage 18 (corresponding

to the claimed conduit); pumping chamber 36 (corresponding to the claimed eccentric oil cavity); vanes 26 (corresponding to the claimed plurality of blades) slidably mounted to the pump rotor. Gilbert teaches that the oil passage 18 "is formed in said shaft generally longitudinally thereof for conveying lubricating oil to various portions of the compressor such as drive shaft mounting bearings, wrist pins and the like" (column 3, lines 13-15).

4. Claims 18-19, 24-26, 32, and 34 are rejected under 35 U.S.C. 102(b) as being anticipated by Traylor et al. (6,017,198). Traylor et al. teach a well casing 2 (corresponding to the claimed outer housing); a shaft 51; a stator 56 disposed within the well casing; a rotor 57 rotatably mounted to within the stator; a lubrication system to distribute lubricant to locations within the well casing (see column 8, lines 11-15); a gear pump 50, including gears 75 and 78, internal to the well casing and external to the shaft, the gear pump adapted to pressurize the lubricant within the lubrication system. As illustrated in Figure 5, the rotor 57 is mounted on the shaft 51, and the gear pump 50 is located above the rotor of the submersible motor.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Gilbert (mentioned previously) in view of Klumpp et al. (5,211,544). Gilbert meets the limitations of the claim, except that Gilbert employs a vane pump rather than a gear pump in order to pump the lubricant. Klumpp et al. teaches that the two pumps were art recognized equivalents (see column 4, lines 9-10) at the time of the invention in those lubrication applications where it is immaterial whether the circulation means is an impeller, vane, or gear, one of ordinary skill in the art would have found it obvious to substitute a gear pump for the Gilbert vane pump.

7. Claims 9-11 and 24-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Parmeter et al. (5,828,149) in view of Klumpp et al. (mentioned previously). Parmeter et al. teach a casing 11 (corresponding to the claimed outer housing); a shaft 31 disposed within the casing; radial support bearings 35 (corresponding to the claimed plurality of wear surfaces that support the shaft; an inducer pump 57 with helical flights 61 disposed within the casing at an axial end thereof; a shaft bore 53 and lateral passages 55 (corresponding to the claimed conduit); a centrifugal pump 17 (corresponding to the claimed submersible pump); a seal section 15 (corresponding to the claimed motor protector); motor 13 (corresponding to the claimed submersible motor). Parmeter et al. teach that "the motor 13 and the seal section 15 will be filled with a lubricating oil" (column 3, lines 52-53). Parmeter et al. further teach that "As shaft 31 rotates, inducer 57 will rotate with it. This causes lubricant in chamber 51 to pass through filter 64, up outlet 65, and into shaft bore 53. Inducer 57 pumps the lubricant up shaft bore 53 and out lateral passages 55. The

upper end of shaft bore 53 may be open in which case some of the lubricant will discharge into seal section 15 ..." (column 3, lines 59- 65). As illustrated in Figure 1, the submersible motor is combined with the seal section 15 and the centrifugal pump 17.

Parmeter et al. meet the limitations of the claims, except that Parmeter et al. employ an impeller pump rather than a gear pump in order to pump the lubricant. Klumpp et al. teaches that the two pumps were art recognized equivalents (see column 4, lines 9-10) at the time of the invention in those lubrication applications where it is immaterial whether the circulation means is an impeller, vane, or gear, one of ordinary skill in the art would have found it obvious to substitute a gear pump for the Parmeter et al. impeller pump.

With regards to the limitation that the pressurized lubricant comprises a dielectric oil (claim 17), the applicant is reminded that a recitation with respect to the material intended to be worked upon by a claimed apparatus does not impose any structural limitations upon the claimed apparatus which differentiates it from a prior art apparatus satisfying the structural limitations of the claims, as is the case here.

8. Claims 20-23 and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Traylor et al. (mentioned previously) in view of Parmeter et al. (mentioned previously). Traylor et al. teach most of the limitations of the claims. However, they do not explicitly teach that the gear pump lubricates the motor shaft. Parmeter et al. teach a lubrication system that extends through the shaft to adequately cool and lubricate the shaft. Therefore, it would have been obvious to one of ordinary skill in the art at the

time the invention was made to provide a lubricating passage through the motor shaft, as taught by Parmeter et al., in the Traylor et al. invention, in order to advantageously prevent galling or premature failure of the motor due to inadequate lubrication.

Response to Arguments

9. Applicant's arguments filed 4/8/2003 have been fully considered but they are not persuasive. The applicant argues that the Carter reference teaches a motor housing 17 which does not house pumps 37, 56, and 79. The applicant is directed to element 11 which, as broadly interpreted, constitutes a "motor housing" since it "houses" the motor. As such, pump 37 is disposed within the motor housing and is circumferential about the shaft. Similarly, the Gilbert reference includes a motor and an internal lubricant pump within a "housing," and thus, meets the limitations of the claims. With respect to the argument that element 54 is a "bearing means or cage," the Examiner was merely trying to point the applicant in the direction of what elements she considered the internal lubricant pump (hence the reference to "generally indicated"). However, to remove any confusion, the Examiner has rewritten this element to the unnumbered elements in Figure 2.

Allowable Subject Matter


10. Claims 22 and 31 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Contact Information

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cheryl J. Tyler whose telephone number is 703-306-2772. The examiner can normally be reached on Monday-Thursday, 6:00 - 10:30 am.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy S. Thorpe can be reached on 703-308-0102. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9302 for regular communications and 703-872-9303 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0861.


Cheryl J. Tyler
Primary Examiner
Art Unit 3746

CJT
May 28, 2003